

CLAIMS

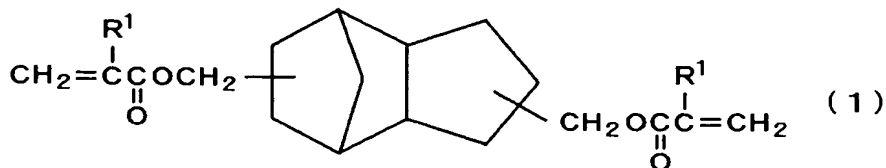
1. A method of producing an acrylic resin plate, comprising:

a step of adding 0.001 to 1 part by weight of a polymerization initiator having 10 hours half life temperature of 80°C or more and 0.015 to 0.2 parts by weight of
5 at least one compound selected from the group consisting of cyclohexadiene and derivatives thereof and terpenoid-based compounds and derivatives thereof into 100 parts by weight of a mixture composed of 5 to 65 wt% of a mono-ethylenically unsaturated monomer containing an alkyl methacrylate having an alkyl group of 1 to 4 carbon atoms and 35 to 95 wt% of a poly-functional (meth)acrylate having two
10 or more (meth)acryloyl groups to give a polymerizable mixture, and
a step of polymerizing said polymerizable mixture to harden the mixture.

2. A method of producing an acrylic resin plate, comprising:

a step of adding 0.001 to 1 part by weight of a polymerization initiator having 10 hours half life temperature of 80°C or more and 0.015 to 0.2 parts by weight of
15 at least one compound selected from the group consisting of cyclohexadiene and derivatives thereof and terpenoid-based compounds and derivatives thereof into 100 parts by weight of a mixture composed of 5 to 65 parts by weight of a syrup consisting of 70 to 99 wt% of a mono-ethylenically unsaturated monomer containing an alkyl methacrylate having an alkyl group of 1 to 4 carbon atoms and 1 to 30
20 wt% of a (co)polymer composed of a mono-ethylenically unsaturated monomer unit containing an alkyl methacrylate having an alkyl group of 1 to 4 carbon atoms, and 35 to 95 parts by weight of a poly-functional (meth)acrylate having two or more (meth)acryloyl groups, to give a polymerizable mixture, and
a step of polymerizing said polymerizable mixture to harden the mixture.

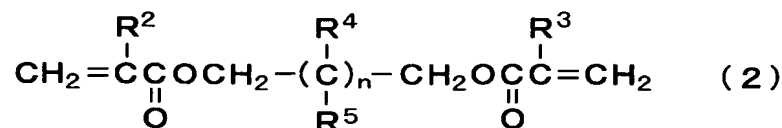
25 3. The method of producing an acrylic resin plate according to Claim 1 or 2, wherein the poly-functional (meth)acrylate is a compound of the following general formula (1):



wherein R^1 represents H or CH_3 .

4. The method of producing an acrylic resin plate according to Claim 1, wherein the poly-functional (meth)acrylate is a compound of the following general

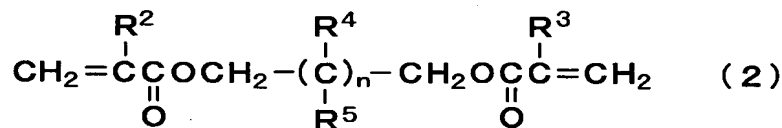
5 formula (2):



wherein R^2 and R^3 represent H or CH_3 , R^4 and R^5 represent H or a hydrocarbon group of 3 or less carbon atoms, and n represents an integer of 0 to 4.

5. The method of producing an acrylic resin plate according to Claim 4,
10 wherein the mixture is a mixture composed of 30 to 65 wt% of a mono-ethylenically unsaturated monomer containing an alkyl methacrylate having an alkyl group of 1 to 4 carbon atoms and 35 to 70 wt% of a poly-functional (meth)acrylate having two or more (meth)acryloyl groups.

6. The method of producing an acrylic resin plate according to Claim 2,
15 wherein the poly-functional (meth)acrylate is a compound of the following general formula (2):



wherein R^2 and R^3 represent H or CH_3 , R^4 and R^5 represent H or a hydrocarbon group of 3 or less carbon atoms, and n represents an integer of 0 to 4.

20 7. The method of producing an acrylic resin plate according to Claim 6, wherein the mixture is a mixture composed of 30 to 65 parts by weight of a syrup consisting of 70 to 99 wt% of a mono-ethylenically unsaturated monomer containing an alkyl methacrylate having an alkyl group of 1 to 4 carbon atoms and 1 to 30

wt% of a (co)polymer composed of a mono-ethylenically unsaturated monomer unit containing an alkyl methacrylate having an alkyl group of 1 to 4 carbon atoms, and 35 to 70 parts by weight of a poly-functional (meth)acrylate having two or more (meth)acryloyl groups.

5 8. A method of producing an acrylic resin laminate, comprising a step of forming a transparent electrically conductive membrane on at least one surface of an acrylic resin plate obtained by the production method according to Claim 1 or 2.

 9. The method of producing an acrylic resin laminate according to Claim 8, wherein the transparent electrically conductive membrane is an ITO membrane.

10 10. A method of producing a transparent electrode plate for touch panel, comprising a step of forming a transparent electrically conductive membrane on at least one surface of an acrylic resin plate obtained by the production method according to Claim 1 or 2.

 11. The method of producing a transparent electrode plate for touch panel according to Claim 10, wherein the transparent electrically conductive membrane is an ITO membrane.

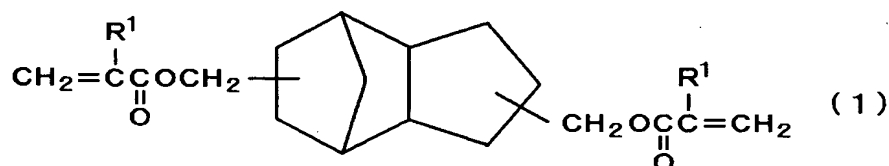
 12. The method of producing a transparent electrode plate for touch panel according to Claim 10, wherein the transparent electrode plate has a deflection temperature under load of 150°C or more.

20 13. A method of producing a touch panel having an upper transparent electrode plate and a lower transparent electrode plate, wherein the upper transparent electrode plate and the lower transparent electrode plate are a transparent electrode plate having a transparent base plate and a transparent electrically conductive membrane formed on at least one surface of the transparent base plate and
25 the upper transparent electrode plate and the lower transparent electrode plate are placed at an interval so that the transparent electrically conductive membranes face mutually, and

at least one of the upper transparent electrode plate and the lower transparent electrode plate is a transparent electrode plate for touch panel obtained by the production method according to Claim 9.

14. An acrylic resin comprising 3 to 30 wt% of an alkyl methacrylate unit having an alkyl group of 8 to 20 carbon atoms, 2 to 35 wt% of a mono-ethylenically unsaturated monomer unit containing an alkyl methacrylate unit having an alkyl group of 1 to 4 carbon atoms and 35 to 95 wt% of a poly-functional (meth)acrylate unit having two or more (meth)acryloyl groups.

15. The acrylic resin according to Claim 14, wherein the poly-functional (meth)acrylate unit is an unit derived from a compound of the following general formula (1):

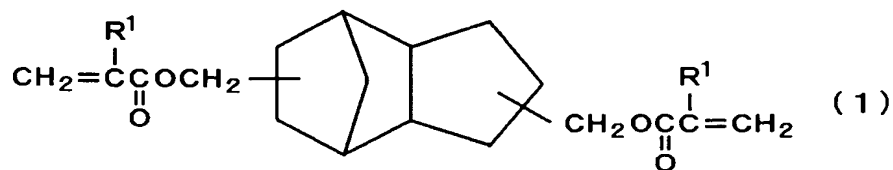


wherein, R^1 represents H or CH_3 .

16. An acrylic resin plate made of a resin according to Claim 14 or 15.

17. A method of producing an acrylic resin plate, comprising polymerizing a polymerizable mixture comprising 3 to 30 wt% of an alkyl methacrylate having an alkyl group of 8 to 20 carbon atoms, 2 to 35 wt% of a mono-ethylenically unsaturated monomer containing an alkyl methacrylate having an alkyl group of 1 to 4 carbon atoms and 35 to 95 wt% of a poly-functional (meth)acrylate having two or more (meth)acryloyl groups to harden the mixture.

18. The method of producing an acrylic resin plate according to Claim 17, wherein the poly-functional (meth)acrylate is a compound of the following general formula (1):



wherein, R¹ represents H or CH₃.

¹⁹18. An acrylic resin laminate obtained by forming a transparent electrically conductive membrane on at least one surface of an acrylic resin plate according to

5 Claim 16.

²⁰¹⁹19. The acrylic resin laminate according to Claim 18, wherein the transparent electrically conductive membrane is an ITO membrane.

²¹20. A transparent electrode plate for touch panel having an acrylic resin laminate according to Claim 18.

²²²¹21. The transparent electrode plate for touch panel according to Claim 20, wherein the deflection temperature under load thereof is 150°C or more.

²³22. A touch panel having an upper transparent electrode plate and a lower transparent electrode plate, wherein the upper transparent electrode plate and the lower transparent electrode plate are a transparent electrode plate having a transparent base plate and a transparent electrically conductive membrane formed on at least one surface of the transparent base plate and the upper transparent electrode plate and the lower transparent electrode plate are placed at an interval so that the transparent electrically conductive membranes face mutually, and

at least one of the upper transparent electrode plate and the lower transparent electrode plate is a transparent electrode plate for touch panel according to Claim 20.